

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the present application:

Listing of Claims:

Claims 1-15 (Canceled).

16. (Previously Presented) A method for substantially eliminating at least one of eruptions, impurities and damage in a crystal lattice, the method comprising the steps of:

providing a surface-plated, sawn-out part of a silicon wafer;
selectively drying the at least one silicon element by heating the at least one silicon element with a radiation heater in a vacuum at a pressure of less than about 0.1 μ bar; and

selectively etching at least one silicon element of the surface-plated, sawn-out part of the silicon wafer by bringing at least an area of the at least one silicon element into contact with a gaseous etching medium for etching silicon selectively in a chemical reaction, wherein gaseous reaction products are produced during the step of selectively etching.

17. (Previously Presented) The method of claim 16, wherein the gaseous etching medium includes a fluoride compound of the XFn type.

18. (Previously Presented) The method of claim 16, wherein the gaseous reaction products include silicon tetrafluoride.

19. (Previously Presented) The method of claim 16, wherein the step of selectively etching is performed at a pressure of 0.1 mbar to 1,000 mbar.

20. (Previously Presented) The method of claim 16, wherein the gaseous etching medium is diluted with an inert gas to control an etching rate.

21. (Previously Presented) The method of claim 16, wherein at least a part of the gaseous etching medium is one of: convertible from a solid phase to the gaseous phase by thermal sublimation using a solid source; convertible from a liquid phase to the gaseous phase by introducing an inert gas using a bubbler; and convertible from one of the liquid phase and the solid phase to the gaseous phase based on a vapor pressure at a temperature.

22. (Previously Presented) The method of claim 16, wherein the at least one silicon element is sawn from the silicon wafer prior to performing the step of selectively etching.

23. (Previously Presented) The method of claim 22, wherein the silicon wafer is attached to a carrier, and the carrier is a sawing sheet clamped into a frame.

24. (Previously Presented) The method of claim 22, wherein the at least one silicon element is initially left on a carrier after the at least one silicon element has been sawn out and treated while still attached to the carrier.

25. (Previously Presented) The method of claim 24, further comprising the step of expanding the sawing sheet after sawing out the plurality of silicon elements and before performing the step of selectively etching to increase a distance between the at least one silicon element and another silicon element, wherein the frame is used as an expansion frame for the sawing sheet.

26. (Canceled).

27. (Previously Presented) The method of claim 16, further comprising the step of adjusting an etching rate while selectively etching the at least one silicon element by selecting at least one of the gaseous etching medium, a composition of the gaseous etching medium and an etching temperature.

28. (Previously Presented) The method of claim 16, further comprising the step of removing the gaseous reaction products produced during the step of selectively etching at least one of during the step of selectively etching and after the step of selectively etching.

29. (Previously Presented) The method of claim 16, further comprising the step of removing, after performing the step of selectively etching in a reaction chamber, at least one of a leftover etching medium and a leftover reaction product from at least one etched silicon element in a vacuum in a load lock, the step of removing being performed at a pressure of less than about 0.1 μ bar and at a temperature higher than during the step of selectively etching.

30. (Previously Presented) The method of claim 16, wherein the step of selectively etching includes selectively etching an edge of a power diode.

31. (Canceled).

32. (Previously Presented) A method for etching, comprising:

 exposing a silicon element to a first heat treatment in a vacuum at a first elevated temperature;

 selectively etching the silicon element with a gaseous etching medium and forming gaseous reactive products, wherein the gaseous etching medium comprises chlorine trifluoride; and

 exposing, subsequent to the selective etching, the silicon element to a second heat treatment in a vacuum at a second elevated temperature;

 wherein at least one of the first and the second heat treatment is implemented with a radiant heating at a pressure of less than 0.1 μ bar.

33. (Currently Amended) ~~The method as recited in Claim 31,~~ A method for etching, comprising:

exposing a silicon element to a first heat treatment in a vacuum at a first elevated temperature;

selectively etching the silicon element with a gaseous etching medium and forming gaseous reactive products, wherein the gaseous etching medium comprises chlorine trifluoride; and

exposing, subsequent to the selective etching, the silicon element to a second heat treatment in a vacuum at a second elevated temperature;

wherein at least one of the first and the second heat treatment is accomplished in a vacuum lock chamber.

34. (Previously Presented) A method for etching, comprising:

exposing a silicon element to a first heat treatment in a vacuum at a first elevated temperature;

selectively etching the silicon element with a gaseous etching medium and forming gaseous reactive products, wherein the gaseous etching medium comprises chlorine trifluoride;

exposing, subsequent to the selective etching, the silicon element to a second heat treatment in a vacuum at a second elevated temperature, wherein at least one of the first and the second heat treatment is accomplished in a vacuum lock chamber;

transferring, subsequent to the first heat treatment, the silicon element from the vacuum lock chamber to a reaction chamber; and

transferring, prior to the second heat treatment, the silicon element from the reaction chamber to the vacuum lock chamber.

35. (Canceled).